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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,802

09/19/2005

Yoshihiro Koizumi

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12/26/2007

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EXAMINER

MRUK, GEOFFREY S

ART UNIT

PAPER NUMBER

2853

NOTIFICATION DATE

DELIVERY MODE

12/26/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com
kghyndman@sughrue.com
USPatDocketing@sughrue.com

TH

Office Action Summary	Application No.	Applicant(s)	
	10/549,802	KOIZUMI, YOSHIHIRO	
	Examiner	Art Unit	
	Geoffrey Mruk	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-10, 12, 14, 17-20 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 12, 14, 17-20 and 22-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/28/06, 6/11/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The references cited in the information disclosure statement (IDS) submitted on 19 September 2005, 16 December 2005, 28 April 2006, and 11 June 2007, have been considered.

Drawings

The drawings received on 19 September 2005 are accepted.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20 and 22-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Balazer (US 6,084,617).

With respect to claim 20, Balazer discloses a sub-tank member mounted on a carriage that reciprocates in a main scanning direction, the sub-tank member comprising:

- a plurality of liquid room openings (Fig. 6, element 68, i.e. each color) that are respectively communicated with a plurality of head-liquid-supplying ports (Fig. 6, element 72) of a liquid ejecting head (Fig. 4, printhead),
- a plurality of liquid-communication ways (Fig. 6, arrows, i.e. ink flow) that are respectively communicated with the plurality of room openings, and
- a plurality of sub-tank-liquid-supplying ports (Fig. 6, element 62) that are respectively communicated with the plurality of liquid-communication ways,
- wherein the plurality of liquid room openings are closed by a common film (Fig. 6, element 50) member in order to form liquid rooms.

With respect to claim 22, Balazer discloses a liquid ejecting apparatus comprising:

- a carriage (Fig. 1, element 20) that reciprocates in a main scanning direction,
- a liquid ejecting head (Fig. 4, printhead) mounted on the carriage, and
- a liquid-room-forming member (Fig. 1, elements 22, 24, 26, 28) mounted on the carriage, having a liquid-room opening (Fig. 6, element 68, i.e. each color) and a liquid-communication-way groove (Fig. 6, element 72) that are communicated with the liquid ejecting head and with a liquid supplying source (Fig. 6, element 62),

- wherein the liquid-room opening and the liquid-communication-way groove are provided in a same first surface (Fig. 6, i.e. outer shell) of the liquid-room-forming member and covered by a common film member (Fig. 6, element 50).

With respect to claim 23, Balazer discloses another liquid-room opening (Fig. 6, interface between elements 60, 62) is provided in a second surface opposite to the first surface and is covered by another film member (Fig. 6, element 60).

With respect to claim 24, Balazer discloses another liquid-room-forming member mounted on the carriage (Fig. 1, element 20), having a liquid-room opening (Fig. 6, arrows, i.e. ink flow) covered by another film member (Fig. 6, element 70), and the two liquid-room-forming members are formed as a single integral member.

With respect to claim 25, Balazer discloses the liquid-room-forming member (Fig. 1, elements 22, 24, 26, 28) is arranged such that the first surface is horizontal.

With respect to claim 26, Balazer discloses the common film member (Fig. 6, element 50, i.e. thickness of element 50) closing the plurality of liquid-room openings is arranged in substantially parallel to the main scanning direction.

With respect to claim 27, Balazer discloses the common film member (Fig. 6, element 50) covering the liquid-room opening (Fig. 6, interface between elements 60, 62) and the liquid-communication-way groove (Fig. 6, element 72) is substantially parallel to the main scanning direction.

With respect to claim 28, Balazer discloses a liquid ejecting apparatus comprising:

- a carriage (Fig. 1, element 20) that reciprocates in a main scanning direction,

- a liquid ejecting head (Fig. 4, printhead) mounted on the carriage, having a plurality of head-liquid-supplying ports and a plurality of nozzles, and
- a liquid-room-forming member (Fig. 1, elements 22, 24, 26, 28) mounted on the carriage, having a plurality of liquid-room-openings (Fig. 6, element 68, i.e. each color) that are respectively communicated with the plurality of head-liquid-supplying ports (Fig. 6, element 72) of the liquid ejecting head,
- wherein the plurality of the liquid-room openings are closed by a common film member (Fig. 6, element 50) in order to form liquid rooms,
- the plurality of liquid-room openings are respectively communicated with a plurality of liquid-communication ways (Fig. 6, arrows, i.e. ink flow) provided in the liquid-room-forming member, and
- the plurality of liquid communication ways are respectively communicated with a plurality of liquid-room-liquid-supplying ports (Fig. 6, element 62) which are communicated with liquid supplying sources (Fig. 3, off board ink supply) provided at an outside of the liquid-room-forming member.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-10, 12, 14, 17-19, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balazer (US 6,084,617) in view of Kobayashi et al. (US 6,213,600 B1).

With respect to claim 1, Balazer discloses a liquid ejecting apparatus comprising:

- a carriage (Fig. 1, element 20) that reciprocates in a main scanning direction,
- a liquid ejecting head (Fig. 4, printhead) mounted on the carriage, having a plurality of head-liquid-supplying ports and a plurality of nozzles, and
- a sub-tank member (Fig. 1, elements 22, 24, 26, 28) mounted on the carriage, having a plurality of liquid-room openings (Fig. 6, element 68, i.e. each color) that are respectively communicated with the plurality of head-liquid-supplying ports (Fig. 6, element 62) of the liquid ejecting head, each the plurality of liquid-room openings are closed by a common film member (Fig. 6, element 50) in order to form liquid storing rooms,
- the plurality liquid-room openings are respectively communicated with a plurality of liquid-communication ways (Fig. 6, arrows, i.e. ink flow) provided in the sub-tank member, and

- the plurality of liquid-communication ways (Fig. 6, arrows, i.e. ink flow) are respectively communicated with a plurality of sub-tank-liquid-supplying ports (Fig. 6, element 62) which are communicated with liquid supplying sources provided at an outside of the sub-tank member (Fig. 3, off-board ink supply).

With respect to claim 2, Balazer discloses the plurality of liquid room openings (Fig. 6, element 68, i.e. each color) have bottoms (Fig. 1, elements 22, 24, 26, 28).

With respect to claim 3, Balazer discloses all the plurality of liquid-room openings (Fig. 6, element 68, i.e. each color) are provided on one side of the sub-tank member (Fig. 1, elements 22, 24, 26, 28).

With respect to claim 4, Balazer discloses the opening surfaces of the plurality of liquid-room openings (Fig. 6, element 68, i.e. each color) are located in a common flat plane (Fig. 1, elements 22, 24, 26, 28, i.e. internal volume).

With respect to claim 6, Balazer discloses the plurality of liquid-communication ways (Fig. 6, arrows, i.e. ink flow) are formed by liquid-communication-way openings (Fig. 6, element 68, i.e. each color) formed in the sub-tank member and a common film member (Fig. 6, element 50) closing the liquid-communication-way openings.

With respect to claim 7, Balazer discloses the plurality of liquid-communication-way openings (Fig. 6, element 68, i.e. each color) are formed in grooves (Fig. 1, elements 22, 24, 26, 28, i.e. internal geometry).

With respect to claim 8, Balazer discloses the plurality of liquid room openings (Fig. 6, element 68, i.e. each color) and the plurality of liquid communication way openings are closed by a common film member (Fig. 6, element 50).

With respect to claim 9, Balazer discloses all the plurality of liquid room openings (Fig. 6, element 68, i.e. each color) are closed by a common first film member (Fig. 6, element 50), and all the plurality of liquid communication way openings (Fig. 6, arrows, i.e. ink flow) are closed by a common second film member (Fig. 6, element 70).

With respect to claim 10, Balazer discloses the plurality of sub tank liquid supply ports (Fig. 6, element 62, i.e. each color) are gathered.

With respect to claim 12, Balazer discloses the film member (Fig. 6, element 50) closing the plurality of liquid room openings is arranged substantially horizontally (Fig. 6, element 50, i.e. thickness of element 50).

With respect to claim 14, Balazer discloses the sub tank member (Fig. 1, elements 22, 24, 26, 28) has a first and second flat planes parallel with each other (Fig. 1, elements 22, 24, 26, 28, i.e. geometry), each flat plane having a film member for closing at least one liquid room opening (Fig. 6, element 68).

With respect to claim 17, Balazer discloses the film member (Fig. 6, element 50) is formed by a synthetic resin film (Column 3, lines 2-6).

With respect to claim 18, Balazer discloses the synthetic resin film is a polyphenylene-sulfide film or a polyimide film (Column 3, line 15).

With respect to claim 19, Balazer discloses at least one of the liquid rooms (Fig. 6, element 68) and the liquid communication ways (Fig. 6, arrows, i.e. ink flow) has a valve mechanism (Fig. 6, elements 54, 56, 58, 60, 66) that is opened by a negative pressure caused by liquid reduction (Column 3, lines 8-18).

With respect to claim 26, Balazer discloses the common film member (Fig. 6, element 50) closing the plurality of liquid-room openings (Fig. 6, element 68, i.e. each color) is arranged in substantially parallel to the main scanning direction.

However, Balazer fails to disclose;

- the sub-tank member is formed as a single integral member.

Kobayashi discloses an ink cartridge where the sub-tank member (Fig. 3B, element 65) is formed as a single integral member (Fig. 4, element 65).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the cartridge disclosed by Kobayashi in the printer disclosed by Balazer. The motivation for doing so would have been "to provide a printer system capable of maintaining a high printing quality of the above-described ink-jet recording apparatus, and also capable of realizing low-cost printing operation" (Column 4, lines 31-35).

Response to Arguments

Applicant's arguments with respect to claims 1, 2-21, and 22-28 have been considered but are moot in view of the new ground(s) of rejection. The examiner makes of record that the claim objections dated 23 April 2007 are withdrawn in view of applicant's remarks.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is (571) 272-2810. The examiner can normally be reached on Monday-Friday 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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12/17/2007

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